NOTES ON CERTAIN GENERA OF ICHNEUMON-FLIES WITH DESCRIPTIONS OF A NEW GENUS AND FOUR NEW SPECIES.

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The subtribe Thymaridina of the tribe Mesoleptini was originally formed under the name Thymarides by Thomson [1] for the genera *Oedemopsis* Tschek, *Thymaris* Foerster, and *Neliopisthus* Thomson. The first of these has since been shown to be synonymous with *Hybophanes* (Foerster) Schmiedeknecht, the genotypes being synonymous. To these three is now to be added the new genus described below.

The systematic position of *Hybophanes* (Foerster) Schmiedeknecht has been a subject of much disagreement among systematic workers it and its various synonyms having been placed in no less than five tribes, representing three of the Ashmeadian subfamilies. It was originally placed by Foerster [2] in his family Lissonotoidae.

Tschek,[3] redescribing it under the name *Oedemopsis*, placed it in the Pimplinae. Brischke [4] synonymized *Oedemopsis rogenhoferi* Tschek, the genotype of *Oedemopsis*, with *Tryphon scabriculus* Gravenhorst and placed it in the Tryphoninae, considering it allied to *Eclytus* Holmgren, as did also Snellen van Vollenhoven.[5]

Thomson,[1] referred *Oedemopsis* along with *Thymaris* Foerster and *Neliopisthus* Thomson to his subtribe Thymarides, tribe Mesoleptina. Davis,[6] considering the Plectiscini as a tribe of the Tryphoninae, placed the synonymous *Campothreptus* Davis (not Foerster), based on the North American (*Tryphon*) *Hybophanes nasutus* (Cresson), in that tribe. Ashmead [7] left *Hybophanes* where Foerster placed it, but redescribed it [7] (p. 59) in the Pimplini as *Zarynchus* with *Tryphon ? nasutus* Cresson as type. *Zarhynchus* being preoccupied he later [8] proposed the substitute *Rhynchothyreus*. Morley,[9]

[1] Opusc. Ent., fasc. 9, 1883, pp. 906–908.
[2] Verh. Nat. Ver. Prov. Preuss. Rheinl., vol. 25, 1868, p. 166.
[3] Verh. Zool.-Bot. Ges. Wien, vol. 1, 1868, p. 276.
[4] Deutsche Ent. Zeitschr., vol. 21, 1877, p. 285–286.
[5] Pinacographia, 1880, pl. 32, fig. 1.
[6] Trans. Amer. Ent. Soc., vol. 24, 1897, p. 247.
[7] Proc. U. S. Nat. Mus., vol. 23, 1900, p. 49.
[8] Can. Ent., vol. 32, p. 368.
[9] Brit. Ichn., vol. 3, 1908, pp. 258, 268.

admitting that it is perhaps more closely related to the Tryphoninae than to the Pimplinae, still retains it in the Pimplinae, and, under the name *Oedematopsis*, assigns it and *Thymaris* to the tribe Acoenitides and adds a new species. Schmiedeknecht[1] retained it in the Pimplinae, where he tabulated it between *Lampronota* and *Arenetra*, although he took note of Thomson's placing of it. Later[2] he tabulated it with *Neliopisthus* and *Thymaris* in the Tryphoninae; and still later[3] he follows Thomson, using the name *Hyophanes*, and calling the tribe and subtribe Mesoleptini and Thymaridina, respectively. Viereck[4] places *Hybophanes nasutus* (Cresson) in his genus *Plectiscidea* under the name *Plectiscidea* (*Campothreptus*) *nasuta* Cresson.

Thymaris has been the basis of but little less disagreement than has *Hybophanes*. Originally placed by Foerster[5] in his family Campoplegides, where the only characters assigned to it are those employed in the key, no species was assigned to it until Brischke[6] described his *Thymaris pulchricornis*. Brischke also considered the genus Campoplegine. Thomson[7] described two species and removed the genus, under the name *Thymarus*, to his subtribe Thymarides. Bridgeman and Fitch[8] and later Bridgeman[9] described *Thymaris fasciatus*, which, as pointed out by Schmiedeknecht[3] almost certainly does not belong to the genus as typified by *pulchricornis* Brischke, but is apparently a true Campoplegine. Ashmead[10] followed Foerster in his placing of *Thymaris*. Pfankuch[11] synonymized *Thymaris pulchricornis* Brischke with *Mesoleptus tener* Gravenhorst. Schmiedeknecht,[2] without referring it to any tribe, tabulated it in a generic synopsis of the Tryphoninae; and later[3] adopted Thomson's disposition of the genus. He synonymized *compressus* Thomson with *pulchricornis* Brischke and expressed doubt of the synonymy of Brischke's species with *Mesoleptus tener* Gravenhorst, though admitting that a part of the male material of Gravenhorst's species belongs here. Morley[12] placed *Thymaris* with *Oedemopsis* in the Acoenitini and described a new species.

Neliopisthus Thomson, aside from its original description by Thomson,[7] has been treated at length only by Schmiedeknecht,[3] who follows Thomson in his disposition of the genus. Ashmead,[13] failing to recognize it, redescribed it as *Polysphinctomorpha* and placed it in the Pimplini. In the same work (p. 179) he simply listed *Neliopisthus* in his bibliography of the genera.

[1] Zool. Jahrb., vol. 3, 1888, p. 435.
[2] Hym. Mitteleu., 1907, p. 620.
[3] Opusc. Ichn., fasc. 32, 1912, pp. 2504-2507.
[4] Hym. Conn., 1917, p. 276.
[5] Verh. Nat. Ver. Prov. Preuss., vol. 1, 1868, p. 151.
[6] Schrift. Naturf. Ges. Danzig, new ser., vol. 4, 1880, pt. 4, p. 145.
[7] Opusc. Ent., fasc. 9, 1883, pp. 906-909.
[8] Entomologist, vol. 18, 1885, p. 100.
[9] Trans. Ent. Soc. Lond., 1886, p. 348.
[10] Proc. U. S. Nat. Mus., vol. 23, 1900, p. 91.
[11] Zeitschr. Syst. Hym. Dip., Jahrg. 6, Heft 1, 1906, p. 82.
[12] Brit. Ichn., vol. 3, 1908, pp. 275-279.
[13] Proc. U. S. Nat. Mus., vol. 23, 1900, p. 59.

The wide divergence of opinion as to the placing of these genera brings up the question of the availability of the first included species as genotypes. The characters used in the present-day keys for the separation of the subfamilies of Ichneumonidae leave much to the discretion of the taxonomist in the placing of species. That Brischke and Thomson or Davis and Ashmead should assign the same species to different subfamilies need cause no surprise, nor does it constitute, in the mind of the present writer, reason for declaring *Oedemopsis pulchricornis* Brischke unavailable as genotype of *Hybophanes* nor *Tryphon ? nasutus* Cresson as type of *Campothretus* and *Rhynchothyreus* provided they agree with the original description of the genera otherwise. Unfortunately *Tryphon ? nasutus* does not agree with the original description of *Campothreptus* Foerster in that the ovipositor is not hooked at the tip, and can therefore not function as the type of that genus.[1] This explains the synonymizing of *Campothreptus* Davis but not *Campothreptus* Foerster with *Hybophanes*.

The present writer is of the opinion that Thomson and Schmiedeknecht are more nearly correct in their placing of these three genera than are any of the other writers. The only feature that they display that is antagonistic to the Tryphoninae is the rather strongly exserted ovipositor, and many of their other more important characters are shared in by such genera as *Eclytus* Holmgren and *Perilissus* (Foerster) Holmgren. In the Mesoleptini, where the petiolate abdomen naturally places them, they, however, form a distinct group worthy of at least subtribal rank. This disposition of the three genera together with the new allied genus described below is followed here.

DESCRIPTION OF SUBTRIBE THYMARIDINA SCHMIEDEKNECHT.

Ovipositor exserted, at least as long as first tergite, sheath widened gradually from base to beyond middle, where it abruptly narrows (fig. 2*c*); head behind eyes broad; antennae slender, in female, sometimes in male, white annulate; mandibles narrowed toward apex, upper tooth longer; pronotum with epomiae strong to dorsal margin where they form an angle on each side; notauli distinct to beyond middle of mesoscutum where they coalesce in an impressed area; sternauli more or less distinctly indicated; propodeum completely, through sometimes weakly, areolated, areola usually long and narrow, petiolar area short, at most embracing slightly less than half the length of the propodeum; wings without an areolet; radius originating beyond middle of stigma; second recurrent straight; nervellus broken far below middle and distinctly antefurcal; legs slender, claws minute, mutic; hind metatarsus at least as long as three following joints united, last joint but little longer than penultimate; first tergite petiolate or subpetiolate, more or less decurved,

[1] See discussion on this point in Proc. U. S. Nat. Mus., vol. 55, 1919, p. 518.

with deep fovea laterally between spiracles and base, spiracles either slightly before or beyond middle.

The following key will serve to separate the three genera already described and the new genus.

KEY TO GENERA.

Clypeus very large, in female beak-like or nose-like protuberant, in male as long as wide, evenly convex; malar space long; scutellum flattened, carinate to apex..1.

Clypeus not especially large, in female not protuberant, in both sexes much shorter than wide; malar space almost obliterated; scutellum strongly convex, carinate only at base.....2.

1. Spiracles of first tergite before middle, lateral fovea near base; propodeal carinae faint; clypeus in female beak-like basally, deeply excavated apically, in male not longer than face nor densely pubescent (fig. 1).....*Hybophanes*.

Spiracles of first tergite beyond middle, lateral fovea distant from base; propodeal carinae strong; clypeus in female nose-like, not deeply excavated below middle, in male longer than face, strongly convex and densely pubescent (fig. 2).....*Zagryphus*, new genus.

2. Abdomen subpetiolate, first segment not much longer than second, spiracles somewhat before the middle, lateral fovea very near base; tergites densely punctate, opaque.....*Neliopisthus*.

Abdomen distinctly petiolate, first segment much longer than second, spiracles behind middle, lateral fovea distant from base; tergites shining, first and second striate.....*Thymaris*.

Genus HYBOPHANES (Foerster) Schmiedeknecht.

Hybophanes FOERSTER, Verh. Nat. Ver. Preuss. Rheinl., vol. 25, 1868, p. 166. No species included.

Oedemopsis TSCHEK, Verh. Zool.-Bot. Ges. Wien, vol. 18, 1868, p. 276.

Type.—(*Oedemopsis rogenhoferi* Tschek)=*Hybophanes scabriculus* (Gravenhorst). Monobasic.

Oedemopsis TSCHEK, Brischke, Deutsche Ent. Zeitschr., vol. 21, 1887, p. 285–286, pl. 2, figs. B1–B6.

Hybophanes (Foerster) SCHMIEDEKNECHT, Zool. Jahrb., vol. 3, 1888, p. 435. Three species.

Type.—*Tryphon scabriculus* Gravenhorst. By designation of Viereck, 1914.

Campothreptus DAVIS, Trans. Amer. Ent. Soc., vol. 24, 1897, p. 247. (Not Foerster).

Type.—*Tryphon* ? *nasutus* Cresson (*not* Mesoleptus ? *nasutus* Cresson, as designated by Viereck, 1914). Isogenotypic with *Rhynchothyreus* Ashmead.

Zarhynchus ASHMEAD, Proc. U. S. Nat. Mus., vol. 23, 1900, p. 59. (Not Oberholzer).

Type.—*Tryphon* ? *nasutus* Cresson.

Rhynchothyreus ASHMEAD, Can. Ent., vol. 32, 1900, p. 368. New name for *Zarhynchus* Ashmead, preoccupied.

Oedematopsis MORLEY, Brit. Ichn., vol. 3, 1908, p. 258 and 268.

This genus has been described in considerable detail by Tschek,[1] in which place he corrects some errors of his original description and adds some characters of the male; and also by Schmiedeknecht.[2]

Viereck was in error when he fixed as genotype of *Campothreptus* Davis, *Mesoleptus* ? *nasutus* Cresson. This species was included by name only by Davis, apparently under the mistaken idea that it is

[1] Verh. Zool.-Bot. Ges. Wien, vol. 20, p. 428.

[2] Opusc Ichn., fasc. 32, p. 2504.

synonymous with *Tryphon ? nasutus*, the species he had before him. The type of *Campothreptus* Davis is therefore *Tryphon ? nasutus* Cresson.

The only North American species that has been described is *Hybophanes nasutus* (Cresson), redescribed in more detail by Davis.

HYBOPHANES NASUTUS (Cresson).

Tryphon ? nasutus CRESSON, Trans. Amer. Ent. Soc., vol. 2, 1868, p. 107, female.
Campothreptus nasutus (Cresson) DAVIS, Trans. Amer. Ent. Soc., vol. 24, 1897, p. 247, female.
Zarhynchus nasutus (Cresson) ASHMEAD, Proc. U. S. Nat. Mus., vol. 23, 1900, p. 59.
Rhynchothyreus nasutus (Cresson) ASHMEAD, Can. Ent., vol. 32, 1900, p. 368. (The species not mentioned by name, *Rhynchothyreus* being here proposed to replace *Zarhynchus* Ashmead, preoccupied.)
Plectiscidea (*Campothreptus*) *nasuta* (Cresson) VIERECK, Hym. Conn., 1917, p. 276.

This species differs in some respects from Schmiedeknecht's description of the genus, as follows: Antennae distinctly shorter than the body; eyes in female slightly convergent below, in male parallel: second and third tergites nearly quadrate, not or barely longer than wide: fourth tergite as well as the first three distinctly though more weakly sculptured.

FIG. 1.—HYBOPHANES NASUTUS (CRESSON). *a*. FEMALE. LATERAL VIEW OF HEAD. (*e.*= EPOMIA.) *b*. MALE. FRONT VIEW OF CLYPEUS.

The male has not been heretofore described. It differs from the female principally in having the clypeus flattened medially and broadly rounded apically; the mesoscutum brighter rufous; the antennae without annulus; and the legs paler throughout.

The United States National Museum collection contains three specimens, a female from Lake Placid, New York; a male from Canada; and another female without locality.

ZAGRYPHUS, new genus.

Differs from *Hybophanes* (Foerster) Schmiedeknecht principally as follows: Head not wider than thorax; clypeus nearly twice as long as face, in female nose-like protuberant, weakly impressed below, shining with sparse setigerous punctures, face elevated in middle to level of clypeus; clypeus in male strongly convex, densely punctate, and, together with the medially protuberant face, sides of frons and vertex and posterior orbits, densely griseo-pubescent; antennae of both sexes broadly white annulate; thorax rather densely punctate and pubescent, notauli weak; propodeum with sharp carinae, basal areas polished, nearly impunctate, pleural areas densely punctate, median and apical areas transversely rugose; basal joint of hind tarsus longer than remaining joints combined; nervellus antefurcal;

transverse cubitus barely a sixth as long as basal abscissa of radius (in *Hybophanes* it is fully a fourth as long); basal abscissa of radius more than half as long as apical abscissa; abdomen subcompressed at apex, the apical segments retracted, first tergite much longer than second, spiracles distinctly behind middle, lateral fovea far from base, postpetiole and second tergite longitudinally rugulose, third very weakly so; ovipositor as long as first tergite.

Type.—*Mesoleptus* ? *nasutus* Cresson.

ZAGRYPHUS NASUTUS (Cresson).

Mesoleptus ? *nasutus* CRESSON, Trans. Amer. Ent. Soc., vol. 2, 1868, p. 103. Male and female.

This is the only described North American species. It is easily recognized from the generic description and from the original description.

There are two females and one male in the United States National Museum collection—the females from Chain Bridge, Virginia (H. B. Kirke), and Cabin John, Maryland (R. M. Fouts), and the male from Lawrence, Kansas (Hugo Kahl), all determined by the writer and S. A. Rohwer. These specimens are the basis of the generic description.

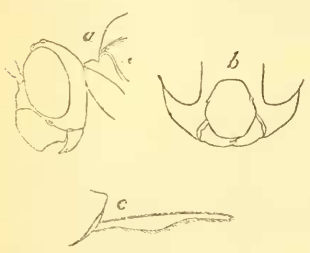

FIG. 2.—ZAGRYPHUS NASUTUS (CRESSON). *a*, FEMALE. LATERAL VIEW OF HEAD. (*e*.=EPOMIA.) *b*, MALE. FRONT VIEW OF CLYPEUS. *c*. SHEATH OF OVIPOSITOR. LATERAL VIEW.

Genus NELIOPISTHUS Thomson.

Neliopisthus THOMSON, Opusc. Ent., fasc. 9, 1883, pp. 907, 908.
Type.—*Phytodietus elegans* Ruthe.
Polysphinctomorpha ASHMEAD, Proc. U. S. Nat. Mus., vol. 33, 1909, p. 59.
Type.—*Polysphinctomorpha luggeri* Ashmead MS.

No specimen of the genotype has been available for study, but that the three species described below belong here there is no doubt, especially since one of them differs in very little from Schmiedeknecht's description of the genotype and may even be that species.

Judging from the three species studied Schmiedeknecht's description of the genus [1] will need a few alterations. The areolation of the propodeum is subject to considerable variation: The areola varies from twice as long as broad and pentagonal (Schmiedeknecht) to as broad as long and hexagonal; the petiolar area is sometimes nearly half as long as the propodeum and sometimes much shorter. That portion of the cubitus lying between the intercubitus and the second recurrent is not always longer than the intercubitus. These and the comparative length and breadth of the tergites are specific characters. The white markings of the head and thorax are apparently of generic significance.

[1] Opusc. Ichn., fasc. 32, p. 2506.

KEY TO FEMALES OF NORTH AMERICAN SPECIES.

General body color fulvous or ferruginous.....*luggeri* (Ashmead)
General body color black.....1
1. Mesoscutum rufous; postpetiole as long as wide at apex; second tergite fully as long as wide; ovipositor sheath barely longer than first tergite..*similis*, new species
Mesoscutum black; postpetiole much shorter than wide at apex; second tergite wider than long; ovipositor sheath much longer than first tergite.....
nigridorsum, new species.

NELIOPISTHUS SIMILIS, new species.

Differs from Schmiedeknecht's description of the genotype only in the shape of the areola and the length of the petiolar area, both of which characters are included in his generic description, and in having a dark longitudinal mark on the disk of mesoscutum, the pronotum partly, metapleura entirely, and propodeum laterally reddish, and the mesonotum no darker than mesopleura.

Female.—Length, 4.5 mm. Head polished, frons and face weakly punctured; thorax subpolished, weakly punctured, more strongly so on disk of mesoscutum; propodeum laterally and posteriorly punctate, medially polished, areola about two-thirds as wide as long, hexagonal, petiolar area not reaching nearly to middle of propodeum; basal vein weakly curved; second abscissa of cubitus much longer than intercubitus; abdomen densely punctate; postpetiole as wide as long; second tergite as long as wide at apex; ovipositor sheath but little longer than first tergite.

Head piceous black; cheeks, mouth parts, clypeus, face below and at sides, and semicircular spot at top of eye whitish; scape and pedicel below rufous; pronotum black, rufous laterally, dorsal and ventral margins white; an elongate spot between notauli blackish; thorax otherwise rufous; propodeum blackish, rufous laterally; legs stramineous, front and middle coxae and all trochanters white, hind tibiae white with obscure apical and subbasal dark annuli; abdomen blackish, tergites apically rufous.

Type-locality.—Wood County, West Virginia.

Type.—Cat. No. 22001, U.S.N.M.

Described from one female captured by Dr. A. D. Hopkins on a gooseberry bush May 2, 1891, and recorded under his West Virginia No. 3200.

NELIOPISTHUS NIGRIDORSUM, new species.

Differs from *similis* principally as follows:

Female.—Length, 4 mm.

Head and thorax more strongly and densely punctate; propodeum more strongly sculptured, areola as well as petiolar area transversely rugulose; basal vein strongly curved; postpetiole wider at apex than

long; second tergite much wider than long; ovipositor sheath about a half longer than first tergite.

Face almost entirely white; pronotum and mesoscutum, except for white markings, black; postscutellum and propodeum entirely black; legs with same color pattern, but pale testaceous rather than stramineous and with dark markings of hind tibiae larger.

Type-locality.—Mount Washington, New Hampshire.

Type.—Cat. No. 22002, U.S.N.M.

Described from one female taken by Mrs. Annie T. Slosson.

NELIOPISTHUS LUGGERI (Ashmead).

Polysphinctomorpha luggeri ASHMEAD MS., Proc. U. S. Nat. Mus., vol. 23, 1900, p. 59.

This species was not described by Ashmead, but was merely mentioned by him as type of the genus *Polysphinctomorpha.*

Differs from *similis* principally as follows:

Female.—Length, 4 mm.

Head and thorax more strongly punctate; propodeum more strongly sculptured, areola rugoso-punctate, nearly as broad as long, petiolar area reaching very nearly to middle; basal vein strongly curved; second abscissa of cubitus barely longer than intercubitus; post-petiole wider at apex than long; ovipositor sheath distinctly longer than first tergite.

General color fulvous to ferruginous; head with occiput, vertex and frons medially black; face almost entirely white; scape and pedicel beneath white; pronotum medially and prescutum anteriorly black; propodeum basally piceous; legs testaceous, front and middle coxae and trochanters yellow and hind trochanters paler, hind tibia at apex and all tarsi fuscous; tergites apically narrowly yellow; ovipositor sheath black.

Male.—Differs from female as follows: Black with same color pattern as female; antennae not annulated; eyes not convergent below; intercubitus longer than second abscissa of cubitus; abdomen somewhat more slender, the postpetiole not wider than long; hind coxae more or less piceous; hind tibiae more strongly infuscate.

Type-locality.—Minnesota.

Type.—Cat. No. 22003, U.S.N.M.

Described from one female labeled by Ashmead "*Polysphinctomorpha luggeri* Ashm.," and three females and two males reared March 17, 1883, from a tineid larva on *Comptonia* without locality or collector's name, but probably reared in Missouri by Miss Mary E. Murtfeldt.

The type is apparently not fully matured and is paler throughout, the normal color being probably ferruginous rather than fulvous.

The three female paratypes have the first tergite in the middle and the others more or less at base piceous.

Genus THYMARIS (Foerster) Brischke.

Only one North American species has been referred to this genus. This is *Thymaris slingerlandana* Ashmead. It does not belong to the genus but is a Campoplegine synonymous with *Dioctes obliteratus* (Cresson).

The following new species is apparently the first North American species truly referable to the genus.

THYMARIS AMERICANUS, new species.

In Schmiedeknecht's key to the European species of *Thymaris* runs to *collaris* Thomson and agrees fairly well with the description, but lacks the brown color on the metapleura. The description of *collaris* is, however, based entirely on color and size, and is so brief that it is inadvisable to determine an American species as *collaris*, especially without a specimen of that species for comparison.

Female.—Length, 4 mm.; antennae, 4 mm.

Head polished, weakly, sparsely punctate, more densely and strongly so on face and frons; temples narrow, convex; clypeus finely punctate; thorax sparsely punctate, more strongly and densely so on disk of mesoscutum and metapleura; propodeum punctate basally transversely rugulose apically, areola and petiolar area equal in length, the former hexagonal with costulae at its basal third; hind basitarsus very nearly as long as remaining joints combined; second abscissa of cubitus barely longer than intercubitus; first three tergites longitudinally striate, the third more weakly so.

Black; clypeus and mandibles yellow; palpi white; antennae black, flavous at base, flagellar joints 9-12 white; thorax black, with pronotum laterally, mesopleura in dorso-anterior corner, disk of mesoscutum and scutellum reddish; tegulae stramineous; legs stramineous, front and middle coxae and trochanters white, hind tibiae slightly infuscate apically and subbasally; abdomen black with apices of first three tergites reddish.

Male.—Length, 4 mm.; antennae, 5 mm.

Differs from female principally as follows: Head wider and more strongly convex behind eyes; antennae black without annulus and with only scape and pedicel yellowish; prothorax mostly black, mesopleura only obsoletely red dorso-anteriorly; mesoscutum and scutellum entirely black; hind tibiae and tarsi generally infuscate.

Four female paratypes show color variation both ways from the type. Paratypes *a* and *b* have the red of the thorax brighter and more extensive, the discal spot on mesoscutum of *a* embracing most

of prescutum. These two also have the second tergite nearly half flavous. Except for the antennae paratype *d* is colored almost like the male paratype *i*. Five male paratypes show very little variation from the allotype, *i* only having a trace of the red on mesoscutum.

Type-locality.—Rosslyn, Virginia.

Other locality.—Georgetown, District of Columbia.

Type.—Cat. No. 22004, U.S.N.M.

Described from the above eleven specimens, all collected by H. H. Smith.